



IN THE USPTO

Appn. Number :10/021,656
Appn. Filed :12-12-2001
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Art Unit :3681

CLAIMS

Claims 1 -14 (cancelled).

Claim 15 (new), what is claimed is;

a combination differential having all gear drive / driven rotation elements, said differential having a means of only allowing / forcing inversely proportional rotation variability and a means of only allowing / forcing both drive axles / wheels to rotate in unison; whenever and in whatever direction said differential is driven, said inversely proportional rotation of a differential's drive axles / wheels of the vehicle disallows the over-spinning of both drive wheels of the said vehicle; due to the relative inverse rotation of the drive axles / wheels relative to the speed of the differential drive case, and thus also inherently prevents immobility of both drive wheels , the above said differential having the means of only allowing / forcing said inversely proportional rotation of the drive axles / wheels herein; not needing / having any internal nor external control clutches, locks, electrics / electronics, nor linkages thus; said differential eliminating the need for any and all types of electronic traction control, limited-slip differentials, and locking differentials, the said differential also having inherent Posi-Traction and an inherent anti roll-back features for the vehicle when in a racing / climbing mode, the said differential is suitable for all types and sizes of vehicles; particularly SUV's and Tractor-Trailers because of the roll-over tendencies of these said vehicles, said combination differential comprising:

Claim – 15 (continued)

(a) a differential drive case (8) having a means of being rotated, and

(b) a first and second planetary differential gear, said first and second planetary differential gear being; rotatable in the said drive case (8), and

said first planetary differential gear comprising:

a support structure / drive case (9), two sun gears (6,7), at least one planet wheel (15,16), one input shaft (19), and two output shafts (5,10);

wherein:

(a) the said support structure / drive case (9) is axially and independently rotative in / of the said rotatable differential case (8); and

(b) one input shaft (19) being; axially stationary in / to the said differential case (8), said input shaft (19) having; a smooth rounded inner surface throughout it's central stock; and

(c) a first sun gear (7) having an axial opening throughout it's central stock, said first sun gear being; axially stationary to the end of the said input shaft (19); and

(d) a first output shaft / drive axle (5) being freely entered through and past the end of the said input shaft (19) and past the said first sun gear (7), the end of the said first output shaft (5) exiting past the said first sun gear (7) and going into said support structure / drive case (9); and

(e) a second output shaft / drive axle (10) being; freely entered through the said case (8), the said second output shaft / drive axle (10) being; axially stationary to the said support structure / drive case (9); and

Claim – 15 (continued-2nd)

(f) a second sun gear (6) being axially stationary to the end of the said first output shaft (5); and

(g) a gear support shaft / shafts (17,18) being; off-centered and stationary to the support structure / drive case (9) and parallel to the central axis of the differential; and

(h) at least one planet gear (15,16) orbitally engaged to the said first and second sun gears (6,7), the said at least one planet gear (15,16) being; rotatively stationary in the said support structure (9) by way of said gear support shaft(s) (17,18), and

said combination differential further comprising;

a second differential gear, including:

(a) freely rotatable bevel pinion (13,14) mounted in said differential case (8) for rotation therewith; and

(b) differential side bevel gears (11,12) mounted in said differential case (8), meshing with said bevel pinion gears (13,14), said side bevel gears (11,12) being; freely rotatable relative to said differential case (8), said side bevel gears each being stationary to an output shaft / axle (5,10); whether directly or indirectly.

Claim -16 (new), as claimed in claim 15;

a differential comprising:

(a) a differential drive case (8) having a means of being rotated, and

(b) a first and second planetary differential gear, said first and second planetary differential gear being; rotatable in the said drive case (8), and

said first planetary differential gear comprising:

a support structure / drive case (9), two sun gears (6,7), at least one planet wheel (15,16), one input shaft (19), and two output shafts (5,10);

wherein:

(a) the said support structure / drive case (9) is axially and independently rotative in / of the said rotatable differential case (8); and

(b) one input shaft (19) being; axially stationary in / to the said differential case (8), said input shaft (19) having; a smooth rounded inner surface throughout it's central stock; and

(c) a first sun gear (7) having an axial opening throughout it's central stock, said first sun gear being; axially stationary to the end of the said input shaft (19); and

(d) a first output shaft / drive axle (5) being freely entered through and past the end of the said input shaft (19) and past the said first sun gear (7), the end of the said first output shaft (5) exiting past the said first sun gear (7) and going into said support structure / drive case (9); and

Claim - 16 (continued)

(e) a second output shaft / drive axle (10) being; freely entered through the said case (8), the said second output shaft / drive axle (10) being; axially stationary to the said support structure / drive case (9); and

(f) a second sun gear (6) being axially stationary to the end of the said first output shaft (5); and

(g) a gear support shaft / shafts (17,18) being; off-centered and stationary to the support structure / drive case (9) and parallel to the central axis of the differential; and

(h) at least one planet gear (15,16) orbitally engaged to the said first and second sun gears (6,7), the said at least one planet gear (15,16) being; rotatively stationary in the said support structure (9) by way of said gear support shaft(s) (17,18), and

said combination differential further comprising;

a second planetary differential gear including:

(a) a gear drive / driven means of secondary drive / rotation of said output shaft / drive axle (5) and said second sun gear (6) relative to the said support structure / drive case (9) and the said second output shaft / drive axle (10); wherein the said secondary drive means is capable of allowed / forced rotation variability relative to the speed of the differential drive case (8); and

(b) a gear drive / driven means wherein; the rotation of said support structure / drive case (9) and the said second output shaft / drive axle (10) automatically causes inversely proportional rotation of the opposing output shaft / drive axle (10).

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